The Renewal of Public Health in Nova Scotia:

Building a Public Health System to Meet the Needs of Nova Scotians

Executive Summary

NOVA SCOTIA
Health
Health Promotion and Protection

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his report is dedicated to the memory of Dr. David M. Rippey. *As a highly respected member of the senior leadership team at the Nova Scotia Department of Health, he recognized and championed the need for a comprehensive review of the province's public health system. While Dr. Rippey's illness prevented his active involvement during the review, his interest never wavered. His long-term vision and contribution to system renewal are strongly reflected in the report.*

Message from the Minister

The SARS experience told Canada the bridge was out, the Naylor report said that it hadn't taken much to strain it. Think of this Public Health Review as a proactive response by expert engineers. A comprehensive review of the foundation of our public health system recommends a newly designed bridge.

As the first province to undertake an independent review such as this, we have wasted little time pointing ourselves in the right direction.

The Department of Health commissioned this report. We listened to system stakeholders, users and staff from across the province, to understand public health's enduring strengths and worst fears. Health's senior leadership and government endorsed this effort.

To members of the advisory committee, our staff, staff of the district health authorities, stakeholders and service users I say thank you on behalf of the government and all Nova Scotians for your insights, expertise, passion and commitment to the health and safety of all Nova Scotians. I would also like to recognize the late David Rippey's leadership role in moving this review from concept to reality.

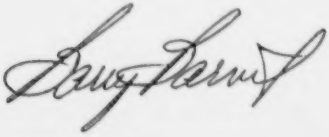
I am proud that we have acted quickly by enacting one of the 21 recommendation through the creation of the Department of Health Promotion and Protection. This new department brings

together Nova Scotia Health Promotion (NSHP), the public health staff who worked both for NSHP and Health, and staff of the Office of the Chief Medical Officer of Health.

We are committed to building on the success and positive response to the creation of Nova Scotia Health Promotion and all it has accomplished in three short years. We are equally committed to renewing the public health system. The new department sets the stage for the development and implementation of an integrated public health system that emphasizes both the promotion and protection of Nova Scotians' health and well being.

Maintaining our health promotion momentum alongside a growing public health system in a new department is the way to go. The guideposts in this report will point us to the place we all want to be: a healthier province now and into the future. I look forward to the journey that follows, developing creative and meaningful partnerships with the district health authorities, government departments, our stakeholders and ultimately, the people of Nova Scotia.

We welcome your engagement on this journey.



Barry Barnet
Minister of Health Promotion and Protection

Acknowledgements

The completion of the review of Nova Scotia's public health system would not have been possible without the contributions of many individuals and organizations. While it is impossible to name all who participated in this process over the past several months, some key contributors are named below. Apologies to any who have inadvertently been overlooked.

Senior leadership of the Department of Health (DOH) and Nova Scotia Health Promotion (NSHP) including Cheryl Doiron, Deputy Minister, DOH and CEO, NSHP; Dr. Jim Miller, Chief, Program Delivery, DOH; Scott Logan, Assistant Deputy Minister, NSHP; Dr. Jeff Scott, Chief Medical Officer of Health; and Janet Braunstein Moody, Senior Director, Public Health; provided an open and transparent environment for the conduct of this review.

Senior public health officials from three other provincial and territorial jurisdictions volunteered their time and wisdom to the benefit of this review: Dr. André Corriveau, Chief Medical Health Officer and Director, Population Health, Northwest Territories; Dr. Richard Massé, Président-directeur general, National Public Health Institute (Quebec); and Lynn Vivian-Book, Assistant Deputy Minister, Newfoundland and Labrador.

Meetings and discussions occurred with a number of groups and organizations including: Deputy Ministers of the Department of Environment and Labour (DEL) and the Department of Agriculture and Fisheries (DAF), Bill Lahey and Rosalind Penfound; District Health Authority (DHA) Chief Executive Officers and Vice-Presidents of Community Health; Public Health Working Group; Public Health Core Committee; NSHP Executive; DOH Program Directors; Atlantic Regional Office of the Public Health Agency of Canada; Atlantic Regional Office of First Nations and Inuit Health Branch of Health Canada; Health Charities; and the Public Health Association of Nova Scotia. Site visits were made to all of the Shared Service Areas providing an opportunity to interact with staff from across the province. In many locations, public health inspectors from DEL and DAF also participated.

The review's Provincial Advisory Committee actively contributed to the review discussing key themes and their implications, and providing recommendations for the conduct of the review. Members of the Committee included:

- Peter MacKinnon (Co-Chair); CEO, Colchester East Hants District Health Authority
- Dr. Jim Millar (Co-Chair); Chief, Program Delivery, DOH
- Dr. Maureen Baikie; Associate Provincial Medical Officer of Health
- Janet Braunstein Moody; Senior Director, Public Health, DOH
- Paula English; A/Director, Primary Health Care, DOH
- Dr. Steve Kisely; Head, Community Health & Epidemiology, Dalhousie University

- Doris Landry; Field Public Health staff
- Scott Logan; Assistant Deputy Minister, NSHP
- Madonna MacDonald; VP Community Health, Guysborough Antigonish Strait Health Authority
- Carol MacKinnon; Director, Public Health Services, South Shore DHA, South West Nova DHA, Annapolis Valley DHA
- Karen MacKinnon; Field Public Health staff
- Susan McBroom; Past-President, Public Health Association of Nova Scotia
- Jim McCorry; Public Health Inspector, Office of Chief Medical Officer of Health, DOH
- Joan Mikkelsen; Field Public Health staff
- Dr. Robert Strang; Medical Officer of Health, Capital District

Executive Summary

SARS, WEST NILE, WALKERTON, obesity, pandemic influenza, terrorism, climate change. Public health issues are, without doubt, reasserting themselves at the onset of the 21st century. At the same time, a series of reports have highlighted, sometimes in agonizing detail, the decline of public health capacity across this country and the need for comprehensive action. This recognition resulted in the country's First Ministers identifying that public health efforts "are critical to achieving better health outcomes for Canadians and contributing to the long-term sustainability of medicare." At the national level, the past year has witnessed the establishment of a Public Health Agency of Canada (PHAC) headed by the country's first Chief Public Health Officer (CPHO), as well as targeted federal investments to build provincial public health system infrastructure.

The Nova Scotia Department of Health (DOH) and Nova Scotia Health Promotion[1] (NSHP) commissioned an external review to assess current capacity, strengths, limitations and opportunities, and to position Nova Scotia to build a stronger, viable public health system. The review is intended to achieve the following:

- Assess the current public health system in Nova Scotia in the context of nationally recognized reports and recommendations.

[1] The Office of Health Promotion was renamed as Nova Scotia Health Promotion in 2005. The current name is used in this report.

- Assess the system's strengths, limitations, and opportunities to ensure the system is responsive, integrated, coordinated, efficient, effective and prepared for new, existing, re-emerging public health threats – both acute and chronic in nature.

- Identify recommendations to ensure Nova Scotia is optimally positioned for both federal and provincial investments.

The findings and recommendations of recent provincial, national and international reports have been used as a guide to assess what needs to be done to renew Nova Scotia's formal governmental public health system. A wide range of system stakeholders including front line staff, District Health Authority executive management, non-governmental organizations, provincial departmental staff and elected officials have participated in the review. The process has also benefited from the wisdom of senior public health leaders from other provinces and territories who volunteered their time over the course of the review. This executive summary provides a high-level overview of the review's findings. See the main report for further details and discussion.

Context for the Review

People's health are influenced by a wide variety of factors or determinants. These determinants include genetics, socio-economic factors, physical and biological environments, personal behaviours and the personal health services system. Both from a determinants of health and health status perspective, the health of Nova Scotians lag behind many other provinces' populations.

Recognizing the contribution of public health to improve the population's health, as well as preventing and mitigating public health emergencies, public health systems in this and other countries have been the focus of increasing scrutiny. While reports prior to SARS identified many areas of concerns, the SARS outbreak provided the confirmatory evidence demonstrating:

- Lack of clarity in leadership, governance, roles and responsibilities
- Uneven capacity and coordination
- Shortage of public health human resources, including surge capacity
- Gaps in laboratory capacity and emergency response
- Lack of research capacity
- Unclear risk communication.

Much of the attention to-date has been on the federal system level and Ontario's public health system. While the latter has been characterized as being broken and needing to be fixed, it has also been noted that it is "not the weakest link in the P/T public health chain." In response, the country's Ministers of Health identified the need to "make public health a top priority by improving public health infrastructure, and increasing institutional, provincial, territorial, and federal capacity" across the country.

The Public Health System

The public health system is less visible and tends to be less well understood than the personal health services system. Focussed on preventing disease, promoting and protecting health, prolonging life and improving quality of life through the organized efforts of society, it is complementary to, but different from, the personal health services system. The population-wide nature of public health issues requires comprehensive responses typically comprising combinations of education and skill building, social policy, inter-sectoral partnership and collaboration, regulation, community development, and the support of effective clinical preventive interventions. The formal public health system is necessary, but insufficient to improve the health of the population. In addition to the personal health services system, government policy, non-governmental organizations, local associations, business groups, organized labour, and many others are required to improve health.

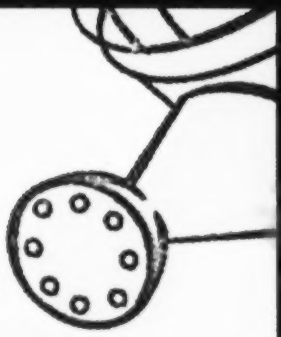
The core functions of the public health system include: population health assessment, health surveillance, health promotion, disease and injury prevention, and health protection. Increasingly, dedicated public health agencies are being created that integrate all of these functions to address the broad range of public health issues. In Canada, examples include the federal Public Health Agency of Canada, Quebec's Public Health Institute, British Columbia's Centre for Disease Control, and the announced intent to create a Health Protection and Promotion Agency in Ontario. Whether structured as Agencies or within government health departments, public health organizations are typically comprised of a series of responsibility centres addressing core public health program areas (e.g. communicable diseases, chronic diseases, injuries, environmental health, child health, etc.) and responsibilities (e.g. public health emergency preparedness).

Provincial and national public health organizations require a critical mass of expertise to provide support, consultation and direction to local staff. Having programmatic responsibility centres facilitates the application of the core functions to each content area. The strategies of these individual responsibility centres are coordinated and integrated through the planning, priority setting, and management of the overall organization. The organization's director is expected to be a highly experienced public health professional that reports at a senior level of government – usually either to the Deputy Minister or Minister or their equivalent.

The organization of public health in Canada at sub-provincial levels typically reflects the organizational characteristics of the rest of the personal health services system. In most provinces, this is some form of regional health authority structure. Quebec has had the longest experience with regionalized structures and is widely acknowledged as having the most highly developed public health system with a defined public health division within each region. A provincial public health program links the system levels together to support coordinated planning and action vertically and horizontally in the system.

The ability to fulfill the public health system's core functions is dependent on the existence of a supporting infrastructure that is comprised of: a sufficient and competent workforce; organizational capacity; and information and knowledge systems. Each of these major infrastructure components comprise a number of inter-related elements that need to be in place for a system to function properly. The review of Nova Scotia's public health system is essentially assessing whether the system has been designed in order to optimally fulfill public health's mission and core functions.

Nova Scotia's Public Health System



The province's existing public health system is structurally complex. Between the Department of Health (DOH) and Nova Scotia Health Promotion (NSHP), there are three "divisions" of public health. To a large extent, these divisions are focussed on different core functions. NSHP focuses primarily on health promotion and chronic disease and injury prevention, while the DOH's Office of the Chief Medical Officer of Health focuses on health protection. Having transferred a substantial part of its staff to NSHP, the Population and Public Health division focuses primarily on healthy development and coordination of program areas. Separate Ministers of Health and Health Promotion exist, although the same Deputy Minister (DM) reports to both. The provincial public health laboratory (PHL) functions are handled by two tertiary level acute care hospital laboratories that are part of two separate health authorities.

The public health inspectors (PHI), who are involved in food safety, drinking water safety, and community inspection services, were transferred out of the DOH in the early 1990s to the Department of Environment (now Environment and Labour – DEL). A sub-group of the PHIs, focussed on food safety, were subsequently transferred to the Department of Agriculture and Marketing (now Agriculture and Fisheries – DAF). A complex set of Memoranda of Understanding attempt to clarify roles and responsibilities among the three Departments.

The local public health staff are employed in nine District Health Authorities (DHA). The two largest DHAs have population bases of 391,000 and 135,000. The remaining seven DHAs serve populations of 34,000-84,000. To address concerns regarding critical mass, all but the largest DHA are grouped into three shared service areas (SSA). A single director of public health exists for each SSA who manages the public health staff across the two or three DHAs that comprise the SSA. The director is employed by one DHA, but is accountable to each of the DHAs within the SSA.

The regional Medical Officers of Health are provincial employees that are geographically situated in the Capital DHA and three SSAs. They have legislated authority to direct staff within the DHAs, as well as within DEL and DAF for health protection purposes. Otherwise, they are expected to provide expert advice to these groups.

A new *Health Protection Act* has been passed and will be proclaimed once the regulations have been finalized. The remaining public health functions of assessment, surveillance, promotion and prevention beyond communicable diseases and environmental health are not defined in legislation. A set of high level public health program standards were developed in 1997, although their implementation are not monitored in any explicit fashion.

System capacity is limited. The combined public health staff of the 9 DHAs is 244 full-time equivalents. Few individuals have graduate level training in public health.

Province-wide, a limited number of information systems currently exist and these have limited functionality. For example, communicable disease reporting is paper-based and occurs on a monthly basis between DHA and provincial system levels. Surveillance systems and analysis capacity for other public health programs do not currently exist.

Public health system funding is approximately $31 million/year, or 1.2% of overall health system funding. These figures do not include vaccine costs or the PHI component in the other two government departments (DAF or DEL).

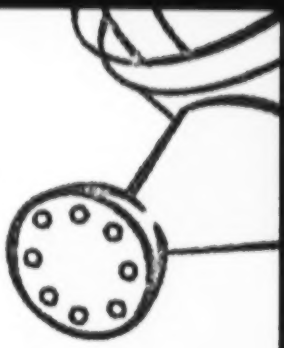
Envisioning System Renewal

Building a stronger, more effective and efficient public health system requires a system perspective since "systems-based thinking and coordination of activity in a carefully-planned infrastructure are not just essential in a crisis, they are integral to core functions in public health because of its population-wide and preventive focus." It requires strengthening structures and capacity at the provincial and DHA levels and improving their integration with each other, as well as with the broader health system at their respective levels.

The Provincial System Level

While system designs of leading provincial/state and national public health organizations support the integration and application of core functions across a range of public health issues, this is not the case in Nova Scotia. The current configuration of the three public health "divisions" based primarily on core functions creates artificial boundaries that impair the ability to apply all of the functions to public health issues. Spreading responsibilities across two or three separate organizations leads to unnecessary inefficiencies and barriers that impair comprehensive analysis and decision making.

The creation of NSHP provided an opportunity to focus on this important public health function and to strengthen it. With SARS and the resulting intense analysis of public health systems, it has become clear that all of the public health functions require attention and strengthening. There is a clear need for a more efficient and rational organization of public health in this province that maintains the government's commitment to health promotion while addressing the entire spectrum of public health responsibilities in a comprehensive manner. Consistent with other leading public health organizations in this country and elsewhere, a single, strong provincial public health organization is required headed by a highly competent public health director to lead the renewal of the province's public health system. Also similar to leading public health organizations in the world, the organization should be comprised of a series of responsibility centres focussing on key public health programmatic/content areas including public health emergency preparedness.



The responsibility centres should be comprised of a multi-disciplinary team of public health professionals that would be actively involved in surveillance, program standards, provision of expert support to the DHAs, and provincial level programming. One or more of the regional Medical Officers of Health (MOH) would be part of each team bringing their community medicine and epidemiologic expertise to the program area.

The teams will need to work together to ensure coordinated planning, priority setting, and system development. This collaboration will be facilitated by teams being part of the same organization with a common interest in prevention, promotion and protection. The single organization will also support the efficient development of the system's infrastructure (e.g. common information systems, surveillance system development, workforce development, community needs assessment, and program standards and accountability).

A key design parameter requiring further analysis will be whether to place the consolidated public health organization within or outside the DOH. The main report includes discussion of some of the issues requiring consideration for this decision.

District Health Authority System Level

The shift from four Regional Health Boards to nine DHAs created a significant challenge for public health system design. A wide variety of options were considered with eventual implementation of the Shared Service Area (SSA) model. The intent was to maintain regional planning and coordination because of concerns that many of the DHAs would otherwise lack a sufficient critical mass of expertise to be able to deliver the full range of public health programs, services and responsibilities.

The SSA model is unique to Nova Scotia and attempts to create regional functionality out of local structures while the legislation, the funding, and the governance structures are all applied at the DHA level. The model's attempt to achieve a critical mass of expertise has been stymied by the relatively small populations of the areas, funding levels, and the ability to recruit specialized staff to smaller centres.

With just under a million people, Nova Scotia has the population of many Regional Health Authorities (RHA) located elsewhere in the country. The province has two levels to its overall health system, one of which, the DHAs, are expected to use a population health perspective in their planning and delivery of services and are to do so in an integrated fashion across the continuum of services that includes public health programs and services. Consequently, pulling local public health responsibilities out of the DHAs is undesirable. However, considering the population bases of the DHAs, expectations for their capacity cannot be those of much larger RHAs found

elsewhere. From a public health perspective, Nova Scotia needs to be viewed as a single region comprised of a series of local authorities with devolved responsibilities to facilitate local assessment, priority setting and service delivery. This has distinct implications for how the system needs to operate.

The needed inter-relationships between the provincial and DHA levels for public health are quite different than those for the clinical care of individual patients. In the personal health services system, primary care providers contact the secondary or tertiary system level to seek advice or transfer care of a patient. These actions occur daily and without involvement of the provincial government. While front line public health service providers also require advice and support, the next system levels are within government at the provincial and then federal levels. This means that the provincial level of the public health system needs to have the expertise and capacity to provide the necessary advice and support to the DHA level. Unlike individual patient care, one cannot transfer a community, but expect that the public health expertise will be available to assist with the unusual/large outbreak, provide evidence-based advice regarding how best to pursue a change in tobacco policies in a community, school policies to limit obesity, environmental contaminants, etc.

Unlike many other parts of the health system, the provincial public health level needs to be actively involved in supporting program delivery by the local authority and in some instances, is the more appropriate level to deliver certain aspects of selected programs (e.g. large social marketing campaigns, surveillance, etc.). Therefore it is more appropriate to envision a single set of public health programs and to acknowledge the relative roles and contributions of the system levels in their delivery. As applied in Quebec, their public health program is a common reference point for all system levels that ensures the use of evidence based programs and supports the tailoring of programs to local needs.

The integration of public health activities between the DHA and provincial levels is also complemented by the integration of their activities at each respective level. For example, at the DHA level, public health needs to collaborate with the institutional staff on infection control issues and contribute to DHA-wide emergency preparedness. Public health staff would also assist with the application of population health data for DHA planning and priority setting. At the provincial level, public health needs to collaborate with other program areas on a range of policy issues including primary health care initiatives, emergency planning, mental health, addictions, etc.

The intent is to have the public health system functioning as an integrated vertical system, while simultaneously being integrated at the DHA and provincial levels. Achieving this vision requires strategic action to put in place many supporting pieces and ongoing effort to ensure the system functions as intended. A province-wide public health program (i.e. standards) will need to be developed, supported and implemented and be a key component of an overall accountability framework for the public health system.

System renewal will formalize the dual roles of the regional MOHs who will combine their regional support role to DHAs with contribution to one of the provincial multi-disciplinary teams. This provides the opportunity for the MOHs to pursue a particular area of interest/expertise contributing their community medicine expertise to the provincial-level team, while also providing dedicated generalized community medicine support to the identified DHA(s).

Public Health Inspection

A variety of concerns were expressed during the consultative phase of the review regarding the existing distribution of responsibilities and resources for environmental health issues. While fully assessing and resolving the longstanding issues associated with the status quo are beyond the scope of this review, a multi-departmental process is required that identifies the key issues and concerns from the perspective of all three Departments that can then inform an analysis and discussion of options of how best to structure responsibilities, resources and required linkages.

Building System Infrastructure

Improvements in the structure of the public health system are necessary but insufficient to ensure overall system functioning. The supporting infrastructure is the underlying foundation that permits the system to fulfill its functions. The public health workforce is the single most important infrastructure component. Compared with other jurisdictions, on a per capita basis, Nova Scotia's public health system has only a fraction of their capacity both in terms of numbers and individuals with highly specialized skill sets. Overall, a comprehensive effort is required to strengthen the provincial and DHA components of the public health workforce. As the primary employer of public health professionals, the governmental public health system has an intrinsic interest in ensuring that sufficient public health training programs exist and meet their system's needs. The current lack of training programs for some public health professionals

(e.g. professional Masters programs in public health, community medicine specialty programs) will need to be addressed in partnership with the academic sector, while exploring potential collaborative opportunities with other Atlantic provinces and the PHAC. As the system rebuilds, positions will need to be adapted and created that provide attractive mixes of challenges, responsibilities, and remuneration.

Public health is an information-intense field. Just as personal health care providers take a history, perform an examination and do tests, public health relies on a wide range of information sources to assess the health of communities, prioritize issues, as well as plan, implement and evaluate interventions. While SARS demonstrated that information systems are critically important for outbreak management, the need for such systems are not limited to crisis situations. Analysis of public health information systems in Nova Scotia indicate that there has been little investment in information technology solutions over the past many years. Availability and use of computers vary widely from one part of the province to another. Existing applications are limited and focus mainly on communicable disease surveillance providing little support for the broader mandates of overall health promotion and disease and injury prevention. The ability to assess health, detect and respond to threats, both acute and chronic in nature, requires timely data and information to support effective decision making. Local Community Health Boards and DHAs require the supports and tools to enable comprehensive needs assessment and priority setting. Overall, a comprehensive strengthening of public health information systems is required.

The public health laboratory is a key element of the public health system and is of central importance in an outbreak. This involves not only provincial level capacity, but also the many laboratories across the province that conduct public health related testing. Laboratory information needs to be actively integrated with public health surveillance and control programs on an ongoing basis, as well as in emergencies. As demonstrated by SARS, attention to surge capacity needs to occur before the emergency.

The most important contributor to surge capacity in an emergency is the baseline capacity of the system. Strengthening that baseline capacity is the focus of this report, not only for emergencies, but in order to fulfill core functions in a more effective manner. Specific ongoing and sustained action is also required to plan, train, and exercise for emergency scenarios.

The province has recently updated its health protection legislation which is a key step to improving its readiness. Health protection is only one aspect of the public health mandate and as system renewal progresses over the upcoming years, there will be a need to establish a more comprehensive public health legislative framework.

System renewal is focused on making those changes necessary to improve the effectiveness and efficiency of the public health system. To achieve these desired improvements will require investment. Nova Scotia currently invests about 1.2% of the health budget on public health not including vaccine expenditures. This trails all other provinces for whom data is available.

The intention though, is not to merely catch-up with other provinces, but to put in place the system that is required to effectively meet the needs of Nova Scotians. It is not precisely known what the optimal level of investment in public health should be. A number of recent reports though, suggest that the public health budget needs to reach, including federal contributions, 5-6% of total public sector health expenditures nationally. Considering the level of existing system funding and the magnitude of the required actions, a doubling of existing investment will need to be achieved through sustained and incremental system investment over a multi-year period (i.e. 5-10 years).

Conclusion

Public health systems around the world have not received sufficient attention in recent years. Nova Scotia is no different in this regard. This province has the opportunity to learn from the experiences of others in building a stronger and more effective public health system that will contribute to the health and wellbeing of all Nova Scotians.

Summary of the 21 Actions for System Renewal

The following 21 actions for system renewal are highly inter-dependent and need to be viewed as a package of strategic actions to be implemented over a multi-year period. The reader is invited to review the discussion in the relevant sections of the main report for the rationale and context for each of these actions.

1. **Articulate and be guided by a collective vision for the public health system that integrates and supports the fulfillment of public health's core functions** that effectively contribute to:
   a. Improving levels of health status of the population and decreased health disparities
   b. Decreasing the burden on the personal health services system and thereby contribute to its sustainability
   c. Improving preparedness and response capacity for health emergencies.

2. **Establish a single leadership position for Nova Scotia's public health system:**
   a. Lead provincial public health organization and be responsible for overall system coordination and development
   b. Reporting to DM
   c. Highly developed competencies: public health, leadership, and management (may also fulfil legislated CMOH responsibilities if appropriate)

d. Clearly defined roles and responsibilities
e. Independence – reporting to public, legislature
f. Competitive, transparent selection process with renewable 5-year term

3 **Establish integrated public health organization at provincial system level**

a. Created by consolidating current 3 public health "entities" (i.e. Office of Chief Medical Officer of Health; Population and Public Health Division; Nova Scotia Health Promotion)
b. Fulfills 5 public health core functions in integrated fashion: population health assessment, surveillance, health promotion, disease prevention and health protection
c. Structure similarly to other leading domestic and international public health agencies by programmatic area
d. Choose name for the public health organization that clearly identifies its responsibilities to staff, decision makers and the public.

4 **Decide whether the consolidated provincial public health organization is best located within or outside the Department of Health and establish appropriate Ministerial oversight.**

5. **Transition the sub-provincial public health system level in a controlled manner from the existing Shared Service Area model to one based within District Health Authorities.** This will require:
   a. Being guided by the vision of a public health system that is vertically integrated between the provincial and DHA system levels, each of which are integrated horizontally with the rest of the health system
   b. Clear roles, responsibilities and accountabilities of the two system levels
   c. Directors of public health in each DHA to manage and be responsible for public health programming within the DHA and to provide population-level analysis and advice to senior executive and the board of the DHA
   d. Maintaining an intact public health team headed by the Director of Public Health
   e. Adequate capacity at both system levels in order to fulfill roles and responsibilities
   f. Expectations and commitment for mutual aid among DHAs to address surges in demand (e.g. outbreaks, emergencies)
   g. Medical Officers of Health to have dual roles:
      i) Be MOH for one or more DHAs
      ii) Be member of a provincial programmatic team.

6. **The Departments of Health, Environment and Labour, and Agriculture and Fisheries embark on a collaborative process to achieve the following:**
   a. Identify, from the perspective of the three departments, the key issues and concerns regarding the current distribution of public health responsibilities and resources.
   b. Identify the range of public health issues and corresponding programming that needs to be provided.
   c. Identify the optimal distribution of responsibilities and resources required to address the findings identified in "b" above.
   d. Develop an implementation plan to achieve "c" above.

7. **Establish and implement a public health workforce development strategy with particular emphasis on critical gaps in the existing workforce.**

8. **Expand overall size of the workforce, as well as those with specialized skill sets** including, but not limited to:
   a. Epidemiologists
   b. Professional Masters trained public health professionals
   c. DHA Directors of public health.

9. **Partner with the academic sector to expand/establish training programs and practicum settings including supporting the development of a teaching health unit.**

10. **Review, update and implement an IT strategy to improve the information infrastructure to support public health core functions and programming.**

11. **Establish evidence-based standards for Nova Scotia's public health system applicable to provincial and DHA levels that provide flexibility for tailoring to local circumstances and that support local and provincial level planning.**

12. **Establish a multi-component accountability mechanism for the public health system:**
    a. Planning, priority setting and implementation of evidence-based interventions
    b. Financial tracking of system investment and its application
    c. Reporting on system performance
    d. Reporting on health of the public.

13. **Develop and implement strategic plan to ensure high quality public health laboratory services in Nova Scotia by the provincial public health laboratory and a provincial laboratory network that are accountable for public health functions to the public health system.**

14. **Prepare public health legislation to comprehensively describe the public health system's functions, approaches, structures, roles and accountabilities.**

15 **Ensure the preparedness of the public health system to address outbreaks and other public health emergencies** by:

a. Resources to plan, train and exercise for emergencies

b. Sufficient ongoing and surge capacity.

16 **Implement a multi-year plan (i.e. 5-10 years) to achieve a doubling of current public health system funding to improve the capacity of the province's public health system to optimally promote health, prevent disease and injury, and be prepared to address the occurrence of public health emergencies. [Current public health system funding accounts for approximately 1.2% of provincial health system expenditures, or $31 million].**

17 **Engage the academic sector within Nova Scotia to discuss opportunities for collaboration with the public health system in training, applied research and service.**

18 **Engage Atlantic Canada regional bodies and other Atlantic provinces to discuss opportunities for collaboration with mutually beneficial public health system functions and infrastructure development.**

19 **Partner with the federal government and the Public Health Agency of Canada to collaboratively strengthen public health system in Nova Scotia.**

20 **Engage the non-governmental sector to discuss opportunities for greater collaboration between the formal and informal public health systems in Nova Scotia.**

21 **Establish a dedicated team to project manage the implementation of the foregoing strategic actions.** This will be a multi-year undertaking requiring a minimum team of 5 individuals to manage the implementation of the foregoing actions.

NOVA SCOTIA

Health
Health Promotion and Protection

www.gov.ns.ca/health/PublicHealth